

**REPLACED BY  
ART 34 AMDT**

We claim:

1. A hard surface cleaning concentrate composition comprising:
  - a) at least one non-cationic antimicrobial agent;
  - 5 b) at least one solvent selected from water soluble organic solvent, water insoluble organic solvent, terpenes, essential oil, and mixtures thereof;
  - c) an anionic soap surfactant;
  - d) at least one surfactant selected from nonionic surfactant, anionic surfactant excluding the anionic soap of c), and mixtures thereof;
  - 10 e) optionally, one or more alkanolamines;
  - f) optionally, one or more conventional constituents selected from dyes, colorants, fragrances and fragrance solubilizers/enhancers, light stabilizers, viscosity modifying agents, pH adjusting agents and pH buffers including organic and inorganic salts, optical brighteners, opacifying agents, hydrotropes, antifoaming
  - 15 agents, enzymes, anti-spotting agents, anti-oxidants, preservatives, and anti-corrosion agents; and
  - g) the balance, water.
2. The cleaning concentrate according to claim 1 wherein the a) non-cationic  
20 antimicrobial agent is selected from pyrithiones, dimethyldimethylol hydantoin, methylchloroisothiazolinone/methylisothiazolinone sodium sulfite, sodium bisulfite, imidazolidinyl urea, diazolidinyl urea, benzyl alcohol, 2-bromo-2-nitropropane-1,3-diol, formalin (formaldehyde), iodopropenyl butylcarbamate, chloroacetamide, methanamine, methyldibromonitrile glutaronitrile, glutaraldehyde, 5-bromo-5-nitro-  
25 1,3-dioxane, phenethyl alcohol, o-phenylphenol/sodium o-phenylphenol, sodium hydroxymethylglycinate, polymethoxy bicyclic oxazolidine, dimethoxane, thimersal dichlorobenzyl alcohol, captan, chlorphenenesin, dichlorophene, chlorbutanol, glyceryl laurate, halogenated diphenyl ethers, phenolic compounds, mono- and poly-alkyl and aromatic halophenols, resorcinol and its derivatives, bisphenolic

compounds, benzoic esters (parabens), halogenated carbanilides, 3-trifluoromethyl-4,4'-dichlorocarbanilide, and 3,3',4-trichlorocarbanilide.

3. The cleaning concentrate according to claims 1 and 2 wherein the a) non-cationic antimicrobial agent is a mono- and poly-alkyl and aromatic halophenol selected from the group p-chlorophenol, methyl p-chlorophenol, ethyl p-chlorophenol, n-propyl p-chlorophenol, n-butyl p-chlorophenol, n-amyl p-chlorophenol, sec-amyl p-chlorophenol, n-hexyl p-chlorophenol, cyclohexyl p-chlorophenol, n-heptyl p-chlorophenol, n-octyl p-chlorophenol, o-chlorophenol, methyl o-chlorophenol, ethyl o-chlorophenol, n-propyl o-chlorophenol, n-butyl o-chlorophenol, n-amyl o-chlorophenol, tert-amyl o-chlorophenol, n-hexyl o-chlorophenol, n-heptyl o-chlorophenol, o-benzyl p-chlorophenol, o-benzyl-m-methyl p-chlorophenol, o-benzyl-m, m-dimethyl p-chlorophenol, o-phenylethyl p-chlorophenol, o-phenylethyl-m-methyl p-chlorophenol, 3-methyl p-chlorophenol, 3,5-dimethyl p-chlorophenol, 6-ethyl-3-methyl p-chlorophenol, 6-n-propyl-3-methyl p-chlorophenol, 6-iso-propyl-3-methyl p-chlorophenol, 2-ethyl-3,5-dimethyl p-chlorophenol, 6-sec-butyl-3-methyl p-chlorophenol, 2-iso-propyl-3,5-dimethyl p-chlorophenol, 6-diethylmethyl-3-methyl p-chlorophenol, 6-iso-propyl-2-ethyl-3-methyl p-chlorophenol, 2-sec-amyl-3,5-dimethyl p-chlorophenol 2-diethylmethyl-3,5-dimethyl p-chlorophenol, 6-sec-octyl-3-methyl p-chlorophenol, p-chloro-m-cresol, p-bromophenol, methyl p-bromophenol, ethyl p-bromophenol, n-propyl p-bromophenol, n-butyl p-bromophenol, n-amyl p-bromophenol, sec-amyl p-bromophenol, n-hexyl p-bromophenol, cyclohexyl p-bromophenol, o-bromophenol, tert-amyl o-bromophenol, n-hexyl o-bromophenol, n-propyl-m,m-dimethyl o-bromophenol, 2-phenyl phenol, 4-chloro-2-methyl phenol, 4-chloro-3-methyl phenol, 4-chloro-3,5-dimethyl phenol, 2,4-dichloro-3,5-dimethylphenol, 3,4,5,6-terabromo-2-methylphenol, 5-methyl-2-pentylphenol, 4-isopropyl-3-methylphenol, para-chloro-meta-xyleneol, dichloro meta xyleneol, chlorothymol, and 5-chloro-2-hydroxydiphenylmethane,

4. The composition according to claims 1 to 3 wherein the b) solvent is selected from C<sub>1-4</sub> alcohols, terpenes, essential oil, and mixtures thereof.
5. The composition according to claims 1 to 4 wherein the b) solvent is a mixture of essential oil and C<sub>1-4</sub> alcohol.
6. The composition according to claim 5 wherein the essential oil is pine oil.
7. The composition according to claim 6 wherein the C<sub>1-4</sub> alcohol is ethanol.
8. The composition according to claim 6 wherein the C<sub>1-4</sub> alcohol is isopropanol.
9. The composition according to claims 1 to 4 wherein the b) solvent is a mixture of essential oil.
10. The composition according to claim 5 wherein the b) solvent is a mixture of essential oil and ethanol.
11. The composition according to claim 10 wherein the essential oil is a mixture of pine oil and d-limonene.
12. The composition according to claims 1 to 11 wherein the anionic soap surfactant is selected from alkali metal soap fatty acids containing from about 8 to about 24 carbon atoms.
13. The composition according to claim 12 wherein the anionic soap surfactant is selected from alkali metal soap fatty acids.

14. The composition according to claims 1 to 13 wherein the non-cationic antimicrobial agent is present in an amount of from about 0.05 to about 15 wt%, more preferably from about 0.1 to about 8 wt%, and more preferably from about 0.2 to about 6 wt%.
- 5 15. The composition according to claims 1 to 14 wherein the anionic soap surfactant is present in an amount of from about 0.1 to about 20 wt%, preferably from about 0.5 to about 15 wt%, and more preferably from about 1 to about 10 wt%.
- 10 16. The composition according to claims 1 to 15 wherein the d) surfactant is a mixture of nonionic surfactant and anionic surfactant excluding the anionic soap of c).
17. The composition according to claims 1 to 15 wherein the d) surfactant is nonionic surfactant.
- 15 18. The composition according to claims 1 to 15 wherein the d) surfactant is an anionic surfactant excluding the anionic soap of c).
19. The composition according to claims 16 and 17 wherein the nonionic surfactant is an alcohol ethoxylate.
- 20 20. The composition according to claim 19 wherein the alcohol ethoxylate is an alkylphenol ethoxylate.
21. The composition according to claims 16, 18, or 19 wherein the anionic surfactant excluding the anionic soap of c) is a sulfate or sulfonate.
- 25 22. The composition according to claim 21 wherein the anionic surfactant excluding the anionic soap of c) is a sulfate.

23. The composition according to claim 21 wherein the anionic surfactant excluding the anionic soap of c) is a sulfonate.
24. The composition according to claims 1 to 23 wherein the d) surfactant is present in an amount of from about 0.01 to about 10wt%, preferably from about 0.05 to about 8wt%, and more preferably from about 0.1 to about 5wt%.
25. The composition according to claims 1 to 24 which contain e) at least one alkanolamine.
26. The composition according to claim 25 wherein the alkanolamine is monoethanolamine.
27. A hard surface cleaning concentrate composition comprising:
- a) from about 0.05 to about 15wt%, preferably from about 0.1 to about 8wt%, and more preferably from about 0.2 to about 6wt% of at least non-cationic antimicrobial agent;
  - b) from about 0.1 to about 20wt%, preferably from about 0.5 to about 15wt%, and more preferably from about 1 to about 15wt% of at least one solvent selected from water soluble organic solvent, water insoluble organic solvent, terpene, essential oil, and mixtures thereof;
  - c) from about 0.1 to about 20wt%, preferably from about 0.5 to about 15wt%, and more preferably from about 1 to about 10wt% of an anionic soap surfactant;
  - d) from about 0.01 to about 10wt%, preferably from about 0.05 to about 8wt%, and more preferably from about 0.1 to about 5wt% of at least one surfactant selected from nonionic surfactant, anionic surfactant excluding the anionic soap of c), and mixtures thereof;
  - e) optionally, from about 0.1 to about 10wt% of one or more alkanolamines;
  - f) optionally, from about 0 to about 10wt% of one or more conventional constituents selected from dyes, colorants, fragrances and fragrance

solubilizers/enhancers, light stabilizers, viscosity modifying agents, pH adjusting agents and pH buffers including organic and inorganic salts, optical brighteners, opacifying agents, hydrotropes, antifoaming agents, enzymes, anti-spotting agents, anti-oxidants, preservatives, and anti-corrosion agents; and

5 g) the balance, water.

28. The composition according to claim 27 which contains e) one or more alkanolamines.

29. The compositions substantially described in Examples Ex.1 to Ex.27.

10 30. A process for cleaning and/or disinfecting a hard surface requiring such treatment which process includes the steps of:

dispersing in water in a weight ratio of concentrate composition:water of from 1:0.1 to 1:1000 a composition according to any one of claims 1 to 29; and

15 applying the dispersed concentrate to the hard surface in an amount effective for providing cleaning and/or disinfecting treatment of the hard surface.

## INTERNATIONAL SEARCH REPORT

Intern Application No

PCT/GB 03/04419

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C11D10/04 C11D3/43 C11D3/20 C11D3/48

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 668 419 A (MOSEMAN ROGER E) 26 May 1987 (1987-05-26)  claims example column 2, line 7 -column 3, line 46 ----	1-15, 17, 19, 20, 24, 27
X A	US 4 589 994 A (MOSEMAN ROGER E) 20 May 1986 (1986-05-20) claims example column 1, line 60 -column 3, line 51 ----- -/--	1-23  27, 28, 30



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

4 February 2004

Date of mailing of the international search report

12/02/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Neys, P

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 03/04419

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 458 166 A (PENNWALT CORP) 8 December 1976 (1976-12-08)  claims examples page 2, line 6 - line 44 page 3, line 12 - line 19 page 3, line 54 -page 4, line 24 -----	1-4, 12-15, 18,21-28
X	EP 0 478 086 A (COLGATE PALMOLIVE CO) 1 April 1992 (1992-04-01)  claims examples page 5, line 39 - line 50 page 7, line 5 - line 36 -----	1,4, 12-18, 21-24, 27,30
X	US 5 417 875 A (NOZAKI TOSHIO) 23 May 1995 (1995-05-23) claims 1-8 examples 3,4 column 3, line 63 -column 4, line 21 -----	1-4, 12-15,18
A	GB 1 285 449 A (MALMSTROM CHEMICAL CORP.) 16 August 1972 (1972-08-16) claims tables I-III page 2, line 24 -page 4, line 43 -----	1-29



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/04419

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 4668419	A	26-05-1987	US	4589994 A	20-05-1986
US 4589994	A	20-05-1986	US	4668419 A	26-05-1987
GB 1458166	A	08-12-1976	AU	8292975 A	13-01-1977
			BR	7504928 A	27-07-1976
			CA	1056252 A1	12-06-1979
			DE	2534481 A1	19-02-1976
			DK	350475 A	03-02-1976
			ES	439885 A1	01-08-1977
			FI	752200 A	03-02-1976
			FR	2280394 A1	27-02-1976
			IE	41400 B1	19-12-1979
			IL	47655 A	31-08-1978
			IT	1041040 B	10-01-1980
			JP	51037904 A	30-03-1976
			LU	73129 A1	02-03-1976
			NL	7509121 A	04-02-1976
			SE	7508563 A	03-02-1976
			ZA	7504637 A	25-08-1976
EP 0478086	A	01-04-1992	US	5236614 A	17-08-1993
			AT	153061 T	15-05-1997
			AU	652380 B2	25-08-1994
			AU	8382191 A	02-04-1992
			BR	9104087 A	02-06-1992
			CA	2051265 A1	26-03-1992
			CN	1060108 A	08-04-1992
			CS	9102852 A3	15-04-1992
			DE	69126081 D1	19-06-1997
			DE	69126081 T2	02-01-1998
			DK	478086 T3	15-12-1997
			EP	0478086 A2	01-04-1992
			FI	914482 A	26-03-1992
			GR	1001316 B	31-08-1993
			HU	58787 A2	30-03-1992
			IE	913342 A1	25-02-1992
			JP	4234500 A	24-08-1992
			JP	6031433 B	27-04-1994
			MW	4991 A1	12-05-1993
			MX	9100858 A1	08-07-1992
			NO	913744 A ,B,	26-03-1992
			NZ	239724 A	25-11-1993
			PL	291815 A1	27-07-1992
			PT	99023 A ,B	31-08-1992
			RO	110779 B1	30-04-1996
			RU	2051958 C1	10-01-1996
			ZA	9106465 A	28-04-1993
			ZM	3791 A1	27-03-1992
US 5417875	A	23-05-1995	JP	3018122 B2	13-03-2000
			JP	5156296 A	22-06-1993
			DE	4240914 A1	24-06-1993
			GB	2262534 A ,B	23-06-1993
GB 1285449	A	16-08-1972	AU	437869 B2	11-07-1973
			AU	4774468 A	18-06-1970
			DE	1903379 A1	30-07-1970

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/04419

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 1285449	A	FR 1604432 A	08-11-1971